d. The estimate of σ, is obtained by projecting the intersection of the 84% probability of failure point on the right-hand axis with the normal line to the lower axis. Call that point on the lower axis U.	d. U = 2900 hours
e. Repeat step d. with the 16% point. Call the point L.	e. L = 1000 hours
f. The estimate of σ is $s = \frac{U-L}{2}$	f. The sample standard deviation, s, is $\frac{U-L}{2} = \frac{2900-1000}{2} = 950$ hours
g. The 95% confidence limits around the mean are given by $\bar{x} \pm t\, s/\sqrt{n}$ where t is shown below for various sample sizes n.	g. $1950 \pm (2.09)\,(950)/\sqrt{20}$ 1950 ± 444 hrs.

n	t
5	2.57
10	2.23
20	2.09
30	2.04
50	2.00
∞	1.96

Example #2: Weibull Distribution

1. When to Use

Estimates of the Weibull shape and scale parameters may be obtained graphically by using specially prepared Weibull probability paper. The decision to use this method should be based wholly on the accuracy desired. This method is the less accurate than statistical analysis but can be done quickly and easily.

2. Conditions for Use

   a. Failure times must be collected.

   b. Median rank tables are required. They are provided in Table 8.3.1-2.

   c. Weibull probability paper is required. See Figure 8.3.1.2-1.